Claims

We claim:

1. A noise-sensing bobbin-coil assembly for use with a stringed musical instrument pickup, the pickup having a single string-sensing signal coil, the pickup generating a noise voltage that produces a mains hum, noise-sensing coil assembly comprising:

a former, or bobbin, consisting essentially of a central core having two opposing end plates extending transversely there from and a noise-sensing copper coil wound thereabout, wherein at least the core is formed from a magnetically permeable material, and wherein upon electrical connection of the assembly to the string-sensing coil of the pickup, eddy current losses in the core are reduced by the generation of a voltage in the assembly that cancels the noise voltage generated in the string-sensing pickup coil.

2. The noise-sensing bobbin-coil assembly according to claim 1, wherein the magnetically permeable material comprises steel laminations or a ferrite.

3. The noise-sensing bobbin-coil assembly according to claim 2, wherein the steel laminations are H-shaped, the bridge of the H comprising the core and the legs of the H comprising the transversely extending end plates.

4. The noise-sensing bobbin-coil assembly according to claim 3, wherein the steel laminations comprise a plurality of thin laminations insulated from one another.

5. The noise-sensing bobbin-coil assembly according to claim 2, wherein the laminations comprise one or more core pins of substantially rectangular cross-section.

6. The noise-sensing bobbin-coil assembly according to claim 2, wherein the laminations comprise one or more core pins of substantially square cross-section positioned between a pair of opposing end core pins of substantially round cross-section.

7. The noise-sensing bobbin-coil assembly according to claim 2, wherein the magnetically permeable material is a composite ferrite material.

8. The noise-sensing bobbin-coil assembly according to claim 7, wherein the core and the end plates are integrally formed from the composite ferrite material.

9. A guitar pickup comprising:

a string-sensing single pickup coil formed about at least one magnet extending through at least one dielectric plate, wherein a noise voltage producing a mains hum is generated in the string- sensing pickup coil; and

a noise-sensing bobbin-coil assembly electrically connected to the string-sensing pickup coil, the assembly comprising a former, or bobbin, consisting essentially of a central core having two opposing end plates extending transversely there from and a noise-sensing copper coil wound thereabout, wherein at least the core is formed from a magnetically permeable material, and wherein eddy current losses in the core are reduced by the generation of a voltage in the assembly that cancels the noise voltage generated in the string-sensing pickup coil.

10. The guitar pickup according to claim 9, further comprising steel side-walls adjacent to the string-sensing pickup coil.

11. The guitar pickup according to claim 10, wherein the string-sensing pickup coil has between 3,000 and 8,000 turns of 0.050 mm or 0.056 mm wire and the noise-sensing coil has between 2,000 and 3,000 turns of 0.063 mm or 0.071 mm wire.

12. The guitar pickup according to claim 10, wherein the noise-sensing bobbin-coil assembly is positioned adjacent the string-sensing pickup coil.

13. A guitar pickup comprising:

a string-sensing single pickup coil formed about a bobbin, wherein a noise voltage producing a mains hum is generated in the string-sensing pickup coil;

a noise-sensing bobbin-coil assembly electrically connected to the string-sensing pickup coil, the assembly comprising a former, or bobbin, consisting essentially of a central core having two opposing end plates extending transversely there from and a noise-sensing copper coil wound thereabout, wherein at least the core is formed from a magnetically permeable material, and wherein eddy current losses in the core are reduced by the generation of a voltage in the assembly that cancels the noise voltage generated in the string-sensing pickup coil;

magnetising means adjacent to the noise-sensing bobbin-coil assembly and distal from the a string-sensing single pickup coil; and

a plurality of steel pole pieces extending in an axial direction medially through at least the bobbin of the string-sensing pickup coil, the pole pieces being associated with the magnetising means, wherein magnetic fields are transferred through the pole pieces to strings of a guitar.

14. The guitar pickup according to claim 13, further comprising steel side-walls adjacent to the string-sensing pickup coil.

15. The guitar pickup according to claim 14, wherein the pole pieces further extend through the core of the noise-sensing bobbin-coil assembly to the magnetising means, which is a single bar magnet polarised in the axial direction of the pole pieces.

16. The guitar pickup according to claim 14, wherein the pole pieces further extend through the core of the noise-sensing bobbin-coil assembly to the magnetising means, which is a pair of transversely spaced bar magnets of opposite polarity.